Amendments to the Specification:

Please amend paragraph number 0002 on page 1 as follows:

In addition, U.S. patent applications Ser. Nos. ~~09/___,___; and 09/___,___; 09/___,___; and 09/___,___~~ 09/775,347; 09/775,348; 09/775,350; and 09/775,346, respectively entitled (1) "A METHOD AND APPARATUS FOR PROVIDING SERVICES ON A DYNAMICALLY ADDRESSED NETWORK"; (2) "A METHOD AND APPARATUS FOR DYNAMICALLY ADDRESSING A CIRCUITS BASED NETWORK"; (3) "METHOD AND APPARATUS FOR DYNAMICALLY ADDRESSING AND ROUTING IN A DATA NETWORK"; and (4) "A METHOD AND APPARATUS FOR THE EXCHANGE OF DATA BETWEEN A DYNAMICALLY ADDRESSED NETWORK AND A FOREIGN NETWORK," having all been filed on February 2, 2001 for Yechiam Yemini, Michael Grossberg, and Danilo Florissi. The above four applications are assigned to the assignee of the present application. The contents of the above four applications are relevant to the subject matter of the present application and are fully incorporated herein by reference.

Please amend paragraph number 0021 on pages 11-12 as follows:

To provide scaleability, networks may be arranged hierarchically. Just as road systems are organized into highways, main roads and side roads, networks may be similarly multi-leveled. As a simple two-level example, the present invention permits top-level networks, called backbones, to connect smaller local networks of end-hosts together. Addresses can reserve some labels as separators. This permits a Node Label or path to comprise of a combination of Node Labels from logically distinct networks, each network having different root Nodes. To illustrate, consider several local networks. A first network with local Nodes A and B, which have coordinate labels with respect to a local root Node R. A second network has local Node C, which has a coordinate label with respect to local root Node S. The two networks are connected by a network backbone, which has a backbone Node T. When the name of a local Node A is stored in the name resolution device it is stored with the identifier of the local root R. When a Node B using the same local root resolves an address, it will match the identifier of the local root R and use simple route computation. When Node C, using a different local root Node ~~that~~ than Nodes A and B, S, looks up the addresses of the Node B, Node C will get B's coordinates with

respect to the root Node R. Node C will need to get the coordinates for root Node R with respect to root Node T. Node C will already know the coordinates of Node T, and its own coordinates, with respect to root Node S. Using these four sets of labels, Node C may now compute the shortest hierarchical route from C to B. Moreover, paths through the backbone may be implemented through local network paths as necessary. Just as in the Link repair mentioned above, a label or set of labels may be replaced during the transit of the frame, with a hierarchical segment that implements a virtual route through a local network route.

Please amend paragraph number 0030 on page 16 as follows:

The following detailed description, given by way of example and not intended to limit the present invention solely thereto, will best be understood in conjunction with the accompanying drawings in which:

FIG 1 shows an example of a typical prior ~~end~~ art network for use with the present invention.

FIG 2 shows an example of a typical prior ~~end~~ art computer for use with the present invention.

FIG 3 shows an example of a network graph with EAG and labels.

FIG 4 shows an example of computing a path from labels.

FIG 5 shows an example of a two-layer architecture for global routing.

FIG 6 shows an example of a Link failure.

FIG 7 shows an example of mobile Nodes in DART.

FIG 8 shows an example of Wavelength Division Multiplexing.

FIG 9 shows an example of the use of Virtual Links.

FIG 10 shows an example of the implementation of Virtual Networks.

Please amend paragraph number 0034 on page 17 as follows:

Illustratively, a Node may be a computer. FIG. 2 illustrates a conventional computer ~~station~~ station 30, which includes a computer housing 40, a monitor 32 and a keyboard 46. Housing 40 comprises a modem jack or network interface 36, a hard drive 34, a floppy disk drive 42, a CD-ROM drive 44, and keyboard 46. Of course, a station may include additional or less hardware as desired. A printer 48 may also be included. However, as stated above, a Node is not limited to a computer and could be illustratively a file, an application server, a cache, a web page, etc.

Please amend paragraph number 0035 on pages 17-18 as follows:

In one embodiment of the present invention, a labeled graph with a designated Root Node, also referred to herein as an *Embedded Addressing Graph* ~~(*EAG*))~~ (*EAG*), is used to assign network addresses to each Node. This network address takes the form of a coordinate label. This coordinate label indicates the position in the network of the node relative to a chosen origin. In this example, the chosen origin is the designated Root Node. The Root Node may be either an actual Node on the network, or a node that does not actually exist, ~~i.e.~~ i.e., an imaginary Node. The EAG is formed by creating a network graph where each Node is attached with a Link to all Nodes that support direct routing access to that Node. In one embodiment, coordinate labels for Nodes are generated by first having each Node assign labels to the Links of the network graph, that come into contact with that Node. Each cycle-free path leading from the root to a given Node will form a path label (otherwise referred to as a Node Label or coordinate label). In its most basic form, the address of a Node (~~i.e.~~ i.e., it's coordinate label) is the set of its path labels. One skilled in the art would appreciate that it is possible to use multiple origins instead of the single origin discussed above. A simple translating mechanism can be used to allow data that is being routed ~~according to~~ from a Node that is labeled with a coordinate label relative to one root node, to be then routed from that root node to a second root node, and then finally routed onto a destination node that is labeled with coordinate labels relative to that second root node: The addressing scheme employed by the present invention can also be used to provide additional network services. These services will be discussed in detail below.

Please amend paragraph number 0040 on pages 20-21 as follows:

The present invention accomplishes label assignment for a given Node, ~~X~~ X, according to the following Node-path labeling algorithm. All Nodes neighboring X pass their labels to X pre-pended by the Link Label connecting them, provided that the label does not already begin with that Link Label. For example, in Fig. 3, Node H would pass its Node Label "2" to Node G, pre-pended by the Link Label that it passes it's Node Label along, i.e. the Link labeled "L" This results in Node G being assigned a Node Label of "12." In another example, Node H could merely pass it's node label "2" to Node G, and Node G could then prepend the label with the link label "1 " However, Node H would not pass the Node Label "1231" to Node G, (resulting in a Node Label of "11231" after the link label is prepended by either Node), as Node Label "1231" begins with the same digit as the Link Label used to pass it (i.e. "1").

Please amend paragraph number 0045 on page 22 as follows:

For example, ~~if~~ in Figure 3, "1231" is a Node Label for Node H, and "131" is a Node Label for Node D. Removing the common suffix "31", and combining the two Node Labels, yields the path "121." Similarly, from the two sets of path labels, one can compute the possible paths "21323", "2131", "1412", "121", and "13", and then select "13" as the shortest hop path.

Please amend paragraph number 0080 on page 39 as follows:

In another embodiment of the present invention, link labels may be employed to identify a virtual link. As shown in Fig. 9, Local networks Nl and N2, having end Nodes ~~N1 and N2~~ E1 and E2 are connected to a backbone Node B through Gateway Nodes G1 and G2, respectively. In the above example El, E2, G1, and G2 are considered to be a part of Networks N1 and N2. Nodes B and G2 are connected by a physical link as shown in the above embodiments. Nodes G1 and B are connected by virtual Link VL1. Virtual Link VLI is in actuality a path through Local network N3. A single virtual identifier may be assigned to represent the entire path through network N3. End Nodes E1 and E2 will use this single virtual identifier in calculating paths between each other based upon their coordinate labels. Assuming End Node El wished to route data to E2, End Node El will use the virtual identifier, VL1. Gateway Node G1 will then

use Link Label replacement to remove VLI from the data's header, and substitute in the full path through N3.

Please amend paragraph number 0081 on pages 39-40 as follows:

In another embodiment of the present invention, a Node may hold coordinate labels that indicate the position of the node within multiple virtual networks that are implemented within the same physical network. In one embodiment Gold, Silver and Bronze level networks could be implemented within the same physical network. Each node that falls within some or all of these virtual networks will be assigned coordinate labels that belong to the respective virtual network. Additionally, some Links, such as more expensive links, higher security links, or higher bandwidth links may only exist, and be accessible, on some, but not all of the virtual networks. In Figure 10, Nodes A ~~though~~ through H, connected by Links, are assigned to Virtual Networks G, S, and B. Nodes A, B, C, E, F, and G, have been assigned to the G virtual network, and store a set of G coordinate labels. Nodes A, C, D, E, and G, have been assigned to the S virtual network, and store a set of S coordinate labels. ~~Nods~~ Nodes A, B, D, G, and H, have been assigned to the B virtual network, and store a set of B coordinate labels. Assume that Node G wishes to route data to Node C. Node G can route the data along either the G or S networks depending on its desire. If Node G wishes to route the data along the S network (which for example may be a less expensive ~~network) It~~ network), it may route the data along S links ~~S1, and S2~~ S1 and S2. However, ~~If~~ if Node G decides to use the G network (which could be a higher bandwidth, or a more expensive ~~network) it~~ network), it can route the data along G Link G1.